General

Guideline Title

Effectiveness-based guidelines for the prevention of cardiovascular disease in women—2011 update: a guideline from the American Heart Association.

Bibliographic Source(s)

Mosca L, Benjamin EJ, Berra K, Bezanson JL, Dolor RJ, Lloyd-Jones DM, Newby LK, Pina IL, Roger VL, Shaw LJ, Zhao D, Beckie TM, Bushnell C, D'Armiento J, Kris-Etherton PM, Fang J, Ganiats TG, Gomes AS, Gracia CR, Haan CK, Jackson EA, Judelson DR, Kelepouris E, Lavie CJ, Moore A, Nussmeier NA, Ofili E, Oparil S, Ouyang P, Pinn VW, Sherif K, Smith SC Jr, Sopko G, Chandra-Strobos N, Urbina EM, Vaccarino V, Wenger NK. Effectiveness-based guidelines for the prevention of cardiovascular disease in women--2011 update: a guideline from the American Heart Association. Circulation. 2011 Mar 22;123(11):1243-62. [142 references] PubMed

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Mosca L, Banka CL, Benjamin EJ, Berra K, Bushnell C, Dolor RJ, Ganiats TG, Gomes AS, Gornik HL, Gracia C, Gulati M, Haan CK, Judelson DR, Keenan N, Kelepouris E, Michos ED, Newby LK, Oparil S, Ouyang P, Oz MC, Petitti D, Pinn VW, Redberg RF, Scott R, Sherif K, Smith SC Jr, Sopko G, Steinhorn RH, Stone NJ, Taubert KA, Todd BA, Urbina E, Wenger NK, Expert Panel/Writing Group, American Heart Association, American Academy of Family Physicians, American College of Obstetricians and Gynecologists, American College of Cardiology Foundation, Society of Thoracic Surgeons, American Medical Women's Association, Centers for Disease Control and Prevention, Office of Research on Women's Health, Association of Black Cardiologists, American College of Physicians, World Heart Federation, National Heart, Lung, and Blood Institute, American College of Nurse Practitioners. Evidence-based guidelines for cardiovascular disease prevention in women: 2007 update. Circulation 2007 Mar 20;115(11):1481-501. [23 references]

Recommendations

Major Recommendations

Definitions of the strengths of the recommendations (I, IIa, IIb, III) and levels of evidence (A, B, C) are presented at the end of the "Major Recommendations" field.

Lifestyle Interventions

Cigarette Smoking

Women should be advised not to smoke and to avoid environmental tobacco smoke. Provide counseling at each encounter, nicotine replacement, and other pharmacotherapy as indicated in conjunction with a behavioral program or formal smoking cessation program (Class I; Level of

Evidence B).

Physical Activity

Women should be advised to accumulate at least 150 min/wk of moderate exercise, 75 min/wk of vigorous exercise, or an equivalent combination of moderate- and vigorous-intensity aerobic physical activity. Aerobic activity should be performed in episodes of at least 10 min, preferably spread throughout the week (Class I; Level of Evidence B).

Women should also be advised that additional cardiovascular benefits are provided by increasing moderate-intensity aerobic physical activity to 5 h (300 min)/wk, 2 1/2 h/wk of vigorous-intensity physical activity, or an equivalent combination of both (Class I; Level of Evidence B).

Women should be advised to engage in muscle-strengthening activities that involve all major muscle groups performed on ≥2 d/wk (Class I; Level of Evidence B).

Women who need to lose weight or sustain weight loss should be advised to accumulate a minimum of 60 to 90 min of at least moderate-intensity physical activity (e.g., brisk walking) on most, and preferably all, days of the week (Class I; Level of Evidence B).

Cardiac Rehabilitation

A comprehensive cardiovascular disease (CVD) risk-reduction regimen such as cardiovascular or stroke rehabilitation or a physician-guided home- or community-based exercise training program should be recommended to women with a recent acute coronary syndrome or coronary revascularization, new-onset or chronic angina, recent cerebrovascular event, peripheral arterial disease (Class I; Level of Evidence A), or current/prior symptoms of heart failure and a left ventricular ejection fraction (LVEF) ≤35% (Class I; Level of Evidence B).

Dietary Intake

Women should be advised to consume a diet rich in fruits and vegetables; to choose whole-grain, high-fiber foods; to consume fish, especially oily fish, at least twice a week; to limit intake of saturated fat, cholesterol, alcohol, sodium, and sugar; and avoid *trans*-fatty acids. See Appendix in the original guideline document (Class I; Level of Evidence B).

Note: Pregnant women should be counseled to avoid eating fish with the potential for the highest level of mercury contamination (e.g., shark, swordfish, king mackerel, or tile fish).

Weight Maintenance/Reduction

Women should maintain or lose weight through an appropriate balance of physical activity, caloric intake, and formal behavioral programs when indicated to maintain or achieve an appropriate body weight (e.g., body mass index [BMI] <25 kg/m^2 in U.S. women), waist size (e.g., <35 in), or other target metric of obesity. (Class I; Level of Evidence B).

Omega-3 Fatty Acids

Consumption of omega-3 fatty acids in the form of fish or in capsule form (e.g., eicosapentaenoic acid [EPA] 1800 mg/d) may be considered in women with hypercholesterolemia and/or hypertriglyceridemia for primary and secondary prevention (Class IIb; Level of Evidence B).

Note: Fish oil dietary supplements may have widely variable amounts of EPA and docosahexaenoic acid (DHA) (likely the only active ingredients).

Major Risk Factor Interventions

Blood Pressure: Optimal Level and Lifestyle

An optimal blood pressure of <120/80 mm Hg should be encouraged through lifestyle approaches such as weight control, increased physical activity, alcohol moderation, sodium restriction, and increased consumption of fruits, vegetables, and low-fat dairy products (Class I; Level of Evidence B).

Blood Pressure: Pharmacotherapy

Pharmacotherapy is indicated when blood pressure is ≥140/90 mm Hg (≥130/80 mm Hg in the setting of chronic kidney disease and diabetes mellitus). Thiazide diuretics should be part of the drug regimen for most patients unless contraindicated or if there are compelling indications for other agents in specific vascular diseases. Initial treatment of high-risk women with acute coronary syndrome or myocardial infarction (MI) should be with β-blockers and/or angiotensin-converting enzyme (ACE) inhibitors/angiotensin receptor blockers (ARBs), with addition of other drugs such as thiazides as needed to achieve goal blood pressure (Class I; Level of Evidence A).

Note: ACE inhibitors are contraindicated in pregnancy and ought to be used with caution in women who may become pregnant.

Lipid and Lipoprotein Levels: Optimal Levels and Lifestyle

The following levels of lipids and lipoproteins in women should be encouraged through lifestyle approaches: low-density lipoprotein cholesterol (LDL-C) <100 mg/dL, high-density lipoprotein cholesterol (HDL-C) >50 mg/dL, triglycerides <150 mg/dL, and non–HDL-C (total cholesterol minus HDL) <130 mg/dL (Class I; Level of Evidence B).

Lipids: Pharmacotherapy for LDL-C Lowering, High-Risk Women

LDL-C–lowering drug therapy is recommended simultaneously with lifestyle therapy in women with coronary heart disease (CHD) to achieve an LDL-C <100 mg/dL (Class I; Level of Evidence A) and is also indicated in women with other atherosclerotic CVD or diabetes mellitus or 10-year absolute risk >20% (Class I; Level of Evidence B).

A reduction to <70 mg/dL is reasonable in very-high-risk women (e.g., those with recent acute coronary syndrome [ACS] or multiple poorly controlled cardiovascular risk factors) with CHD and may require an LDL-lowering drug combination (Class IIa; Level of Evidence B).

Lipids: Pharmacotherapy for LDL-C Lowering, Other At-Risk Women

LDL-C–lowering with lifestyle therapy is useful if LDL-C level is ≥130 mg/dL, there are multiple risk factors, and the 10-y absolute CHD risk is 10% to 20% (Class I; Level of Evidence B).

LDL-C lowering is useful with lifestyle therapy if LDL-C level is ≥160 mg/dL and multiple risk factors even if 10-y absolute CHD risk is <10% (Class I; Level of Evidence B).

LDL-C lowering with lifestyle therapy is useful if LDL ≥190 mg/dL regardless of the presence or absence of other risk factors or CVD (Class I; Level of Evidence B).

In women >60 y of age and with an estimated CHD risk >10%, statins could be considered if high-sensitivity C-reactive protein (hsCRP) is >2 mg/dL after lifestyle modification and no acute inflammatory process is present (Class IIb; Level of Evidence B).

Lipids: Pharmacotherapy for Low HDL-C or Elevated Non–HDL-C

Niacin or fibrate therapy can be useful when HDL-C is low (<50 mg/dL) or non–HDL-C is elevated (>130 mg/dL) in high-risk women after LDL-C goal is reached (Class IIb; Level of Evidence B).

Diabetes Mellitus

Lifestyle and pharmacotherapy can be useful in women with diabetes mellitus to achieve a hemoglobin A_{1C} (HbA_{1C}) <7% if this can be accomplished without significant hypoglycemia (Class IIa; Level of Evidence B).

Preventive Drug Interventions

Aspirin: High-Risk Women

Aspirin therapy (75–325 mg/d) should be used in women with CHD unless contraindicated (Class I; Level of Evidence A).

Aspirin therapy (75–325 mg/d) is reasonable in women with diabetes mellitus unless contraindicated (Class IIa; Level of Evidence B).

If a high-risk woman has an indication but is intolerant of aspirin therapy, clopidogrel should be substituted (Class I; Level of Evidence B).

Aspirin: Other At-Risk or Healthy Women

Aspirin therapy can be useful in women ≥65 y of age (81 mg daily or 100 mg every other day) if blood pressure is controlled and benefit for ischemic stroke and MI prevention is likely to outweigh risk of gastrointestinal bleeding and hemorrhagic stroke (Class IIa; Level of Evidence B) and may be reasonable for women <65 y of age for ischemic stroke prevention (Class IIb; Level of Evidence B).

Aspirin: Atrial Fibrillation

Aspirin 75–325 mg should be used in women with chronic or paroxysmal atrial fibrillation with a contraindication to warfarin or at low risk of stroke (<1%/y or Congestive Heart Failure, Hypertension, Age, Diabetes, Prior Stroke [CHADS2] score of <2) (Class I; Level of Evidence A).

Warfarin: Atrial Fibrillation

For women with chronic or paroxysmal atrial fibrillation, warfarin should be used to maintain the international normalized ratio (INR) at 2.0 to 3.0 unless they are considered to be at low risk for stroke (<1%/y or high risk of bleeding) (Class I; Level of Evidence A).

Dabigatran: Atrial Fibrillation

Dabigatran is useful as an alternative to warfarin for the prevention of stroke and systemic thromboembolism in patients with paroxysmal to permanent atrial fibrillation (AF) and risk factors for stroke or systemic embolization who do not have a prosthetic heart valve or hemodynamically significant valve disease, severe renal failure (creatinine clearance <15 mL/min), or advanced liver disease (impaired baseline clotting function) (Class I; Level of Evidence B).

β-Blockers

β-Blockers should be used for up to 12 mo (Class I; Level of Evidence A) or up to 3 y (Class I; Level of Evidence B) in all women after MI or ACS with normal left ventricular function unless contraindicated.

Long-term β-blocker therapy should be used indefinitely for women with left ventricular failure unless contraindications are present (Class I; Level of Evidence A).

Long-term β-blocker therapy may be considered in other women with coronary or vascular disease and normal left ventricular function (Class IIb; Level of Evidence C).

ACE Inhibitors/ARBs

ACE inhibitors should be used (unless contraindicated) in women after MI and in those with clinical evidence of heart failure, LVEF ≤40%, or diabetes mellitus (Class I; Level of Evidence A).

In women after MI and in those with clinical evidence of heart failure, an LVEF ≤40%, or diabetes mellitus who are intolerant of ACE inhibitors, ARBs should be used instead (Class I; Level of Evidence B).

Note: ACE inhibitors are contraindicated in pregnancy and ought to be used with caution in women who may become pregnant.

Aldosterone Blockade

Use of aldosterone blockade (e.g., spironolactone) after MI is indicated in women who do not have significant hypotension, renal dysfunction, or hyperkalemia who are already receiving therapeutic doses of an ACE inhibitor and β-blocker and have LVEF ≤40% with symptomatic heart failure (Class I; Level of Evidence B).

Class III Interventions (Not Useful/Effective and May Be Harmful) for the Prevention of CVD in Women

Menopausal Therapy

Hormone therapy and selective estrogen-receptor modulators (SERMs) should not be used for the primary or secondary prevention of CVD (Class III, Level of Evidence A).

Antioxidant Supplements

Antioxidant vitamin supplements (e.g., vitamin E, C, and beta carotene) should not be used for the primary or secondary prevention of CVD (Class III, Level of Evidence A).

Folic Acid*

Folic acid, with or without B6 and B12 supplementation, should not be used for the primary or secondary prevention of CVD (Class III, Level of Evidence A).

*Folic acid supplementation should be used in the childbearing years to prevent neural tube defects.

Aspirin for MI in Women <65 Years of Age

Routine use of aspirin in healthy women <65 years of age is not recommended to prevent MI (Class III, Level of Evidence B).

Definitions:

Strength of Recommendations

Class I: Intervention is useful and effective

Class IIa: Weight of evidence/opinion is in favor of usefulness/efficacy

Class IIb: Usefulness/efficacy is less well established by evidence/opinion

Class III: Procedure/test not helpful or treatment has no proven benefit. Procedure/test excess cost without benefit or harmful or treatment harmful to patients

Level of Evidence

A: Sufficient evidence from multiple randomized trials

B: Limited evidence from single randomized trial or other nonrandomized studies

C: Based on expert opinion, case studies, or standard of care

Clinical Algorithm(s)

A clinical algorithm is provided in the original guideline document for cardiovascular disease (CVD) preventive care in women.

Scope

Disease/Condition(s)

Cardiovascular disease (CVD):

- Coronary heart disease (CHD)
- Other forms of atherosclerotic/thrombotic CVD, such as cerebrovascular disease and peripheral arterial disease

Guideline Category

Prevention

Risk Assessment

Clinical Specialty

Cardiology

Family Practice

Internal Medicine

Nursing

Nutrition

Obstetrics and Gynecology

Preventive Medicine

Intended Users

Advanced Practice Nurses

Allied Health Personnel

Dietitians

Health Care Providers

Health Plans

Hospitals

Managed Care Organizations

Nurses

Patients

Physician Assistants

Physicians

Public Health Departments

Guideline Objective(s)

To present the most current evidence-based clinical recommendations for the prevention of cardiovascular disease (CVD) in women ≥20 years of age with a broad range of cardiovascular risk

Target Population

Adult women 20 years and older with a broad range of cardiovascular risk

Interventions and Practices Considered

1. Assessment and stratification of cardiovascular risk (medical and family history, physical examination, laboratory tests, and Framingham risk assessment)
2. Lifestyle interventions
    - Avoidance of cigarette smoking and exposure to environmental tobacco, counseling, and nicotine replacement if indicated
    - Physical activity and exercise
    - Cardiovascular or stroke rehabilitation if indicated
    - Heart-healthy diet
    - Weight maintenance/reduction through diet, exercise, and behavioral programs
    - Omega-3 fatty acid supplementation
3. Major risk factor interventions
    - Management of blood pressure through lifestyle approaches (weight management, diet, activity, moderation of alcohol) and drugs, such as thiazide diuretics, β-blockers, angiotensin-converting enzyme (ACE) inhibitors, angiotensin receptor blockers (ARBs)
    - Management of lipids through lifestyle, diet therapy, and pharmacotherapy (low-density lipoprotein cholesterol [LDL-C]-lowering therapy [statin], niacin, or fibrate)
    - Management of diabetes (glycemic control) with lifestyle and pharmacotherapy
4. Preventive drug interventions
    - Antiplatelet therapy (aspirin, clopidogrel, warfarin, dabigatran)
    - β-Blockers
    - ACE inhibitors/ARBs
    - Aldosterone blockade

Note: The guideline developers considered but recommended against the following interventions for prevention of cardiovascular disease: hormone therapy and selective estrogen-receptor modulators (SERMs), antioxidant supplements, folic acid with or without B6 and B12 supplementation,

and routine use of aspirin in healthy women <65 years of age.

Major Outcomes Considered

- Cardiovascular disease (CVD) risk, including lifetime risk and short-term absolute risk, defined by Framingham Point Score Estimates of 10-year risk for coronary heart disease (CHD) in women, based on age, total cholesterol, smoking status, high-density lipoprotein (HDL) levels, systolic blood pressure
- Major CVD clinical end points (coronary death, myocardial infarction, coronary insufficiency, angina, ischemic stroke, hemorrhagic stroke, transient ischemic attack, peripheral artery disease, heart failure)

Methodology

Methods Used to Collect/Select the Evidence

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Selection of Topics and Systematic Search

The expert panel reviewed the list of recommendations in the 2007 guidelines and suggested additional topics to be searched to determine if they warranted discussion or a clinical recommendation. The search terms for the systematic search were similar to those conducted in 2007 and previously described. The databases searched for this update were PubMed, EMBASE, and Cochrane. The timeframe for the updated search was January 2006 through January 2010. Briefly, studies were included if they were randomized clinical trials or large prospective cohort studies (>1000 subjects) of cardiovascular disease (CVD) risk-reducing interventions, meta-analyses that used a quantitative systematic review process, or surrogate end-point studies with at least 10 cases of major clinical CVD end points reported. The systematic search was conducted by the American Heart Association (AHA) librarian. Class III recommendations from the 2007 guidelines update were not searched because of consensus by the expert panel members that data remained insufficient for modification (i.e., menopausal therapy, antioxidants, and folic acid supplementation). Some topics were not included in the systematic search if they were covered in recent guidelines (e.g., treatment of atrial fibrillation for stroke prevention).

Number of Source Documents

Not stated

Methods Used to Assess the Quality and Strength of the Evidence

Weighting According to a Rating Scheme (Scheme Given)

Rating Scheme for the Strength of the Evidence

Level of Evidence

A: Sufficient evidence from multiple randomized trials

B: Limited evidence from single randomized trial or other nonrandomized studies

C: Based on expert opinion, case studies, or standard of care

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Systematic Review with Evidence Tables

Description of the Methods Used to Analyze the Evidence

Evidence Rating and Recommendation Procedures

Subcommittees were organized by subtopic and were charged with preparation of summary evidence tables based on the updated literature review. These tables were then reviewed in series of conference calls, after which the subcommittee modified or retained the current recommendation on the basis of the discussions. Each recommendation was assigned both a strength of recommendation (Class I, IIa, IIb, or III) and a Level of Evidence (A, B, or C) (see the "Rating Scheme for the Strength of the Evidence" and the "Rating Scheme for the Strength of the Recommendations" fields). The updated recommendations were voted on by the expert panel by individual ballot to determine by a majority vote the final rating of evidence, the strength of the recommendation, and its wording.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Selection of Expert Panel

The American Heart Association (AHA) Manuscript Oversight Committee commissioned the update of the guidelines and approved the writing group chair, the executive writing committee members with specific expertise (methods and cost-effectiveness, risk assessment, healthcare professional implementation, patient and consumer education, diversity and population representation, and international issues), and expert panel members to review the literature for updates to the recommendation topic areas. The leadership of each AHA scientific council was asked to nominate a recognized expert in cardiovascular disease (CVD) prevention who had particular knowledge about women.

Major professional or government organizations with a mission consistent with CVD prevention were solicited to serve as cosponsors and were asked to nominate 1 representative with full voting rights to serve on the expert panel. Each executive writing committee and expert panel member completed a conflict of interest statement and was asked to abstain from discussion or voting on any recommendations deemed to be a potential conflict of interest. Panelists also suggested diverse professional and community organizations to endorse the final document after its approval by the AHA Science Advisory and Coordinating Committee and cosponsoring organizations.

Evidence Rating and Recommendation Procedures

Subcommittees were organized by subtopic and were charged with preparation of summary evidence tables based on the updated literature review. These tables were then reviewed in series of conference calls, after which the subcommittee modified or retained the current recommendation on the basis of the discussions. Each recommendation was assigned both a strength of recommendation (Class I, IIa, IIb, or III) and a Level of Evidence (A, B, or C) (see the "Rating Scheme for the Strength of the Evidence" and the "Rating Scheme for the Strength of the Recommendations" fields). The updated recommendations were voted on by the expert panel by individual ballot to determine by a majority vote the final rating of evidence, the strength of the recommendation, and its wording. Further minor modifications to text and clinical recommendations were based on peer review comments and cosponsor reviews. The guidelines were then finalized and approved by the expert panel.

Rating Scheme for the Strength of the Recommendations

Class I: Intervention is useful and effective

Class IIa: Weight of evidence/opinion is in favor of usefulness/efficacy

Class IIb: Usefulness/efficacy is less well established by evidence/opinion

Class III: Procedure/test not helpful or treatment has no proven benefit. Procedure/test excess cost without benefit or harmful or treatment harmful to patients

Cost Analysis

Cost-effectiveness analyses reviewed were published between 2000 and 2010, focusing on randomized controlled trials and observational studies of omega-3 use, dietary intake, β-blocker and aspirin therapy, and management of obesity, smoking, and hypertension in secondary and primary prevention of cardiovascular disease (CVD). Few of these studies included gender-stratified or gender-specific analyses; however, some cost-effectiveness analyses with Markov or simulation modeling presented gender-specific or women-only data.

Often the cost inputs and methodologies were insufficiently described or used resource consumption as a surrogate for cost. On the basis of these analyses, aspirin appears cost-effective in women ≥65 years of age with moderate to severe CVD risk. Antihypertensive treatments and smoking cessation treatments appear cost-effective for women. Weight management approaches, including drug therapy and gastric bypass surgery, appear effective for weight loss but add costs, with decision analytic approaches noting favorable cost-effective ratios in younger and middle-aged obese women.

The expert panel emphasized the need for more cost-effective analyses according to gender. Consistent with a recent Institute of Medicine report on women's health research, the expert panel recommends adequate participation of women and reporting of gender-stratified analyses in health research. The panel also emphasized the need for reporting of gender-specific analyses for *both* efficacy and adverse effects of preventative interventions to inform the development of future gender-specific guidelines.

Method of Guideline Validation

Internal Peer Review

Description of Method of Guideline Validation

Minor modifications to text and clinical recommendations were based on peer review comments and cosponsor reviews. The guidelines were then finalized and approved by the expert panel.

This statement was approved by the American Heart Association Science Advisory and Coordinating Committee on January 7, 2011.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of supporting evidence is identified and graded for each recommendation (see "Major Recommendations" field).

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Reduction in atherosclerotic thrombotic cardiovascular outcomes in women

Potential Harms

- Adverse effects of medication. For example, aspirin may increase the risk of gastrointestinal bleeding and hemorrhagic stroke.
- Adverse effects of mercury exposure from eating certain types of fish

Contraindications

Contraindications

Contraindications

Angiotensin-converting enzyme (ACE) inhibitors are contraindicated in pregnancy and ought to be used with caution in women who may become pregnant.

Qualifying Statements

Qualifying Statements

- The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.
- It is noteworthy that some of the recommendations in the guidelines for cardiovascular disease (CVD) prevention in women are based on studies with relatively small sample sizes of women, which is particularly problematic when considering women with different cultural and racial-ethnic backgrounds. Thus, the conclusions of meta-analyses based on these studies may not be generalizable to women worldwide.

Implementation of the Guideline

Description of Implementation Strategy

An implementation strategy was not provided.

Implementation Tools

Clinical Algorithm

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Living with Illness

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Identifying Information and Availability

Bibliographic Source(s)

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Adaptation

Not stated: This guideline was not adapted from another source.

Date Released

2004 Feb (revised 2011 Mar 22)

Guideline Developer(s)

American Heart Association - Professional Association

Source(s) of Funding

American Heart Association

Guideline Committee

Expert Panel/Writing Group for Cardiovascular Disease Prevention in Women

Composition of Group That Authored the Guideline

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Financial Disclosures/Conflicts of Interest

The American Heart Association makes every effort to avoid any actual or potential conflicts of interest that may arise as a result of an outside relationship or a personal, professional, or business interest of a member of the writing panel. Specifically, all members of the writing group are required to complete and submit a Disclosure Questionnaire showing all such relationships that might be perceived as real or potential conflicts of interest.

See the original guideline document for a complete list of writing group and reviewer disclosures.

Guideline Endorser(s)

American Academy of Physician Assistants - Professional Association

American Association for Clinical Chemistry, Inc. - Professional Association

American Association of Cardiovascular and Pulmonary Rehabilitation - Medical Specialty Society

American College of Chest Physicians - Medical Specialty Society

American Diabetes Association - Professional Association

American Society for Preventive Cardiology - Medical Specialty Society

American Society of Echocardiography - Professional Association

American Society of Nuclear Cardiology - Professional Association

Association of Women's Health, Obstetric, and Neonatal Nurses - Professional Association

Hartford Institute for Geriatric Nursing - Academic Institution

HealthyWomen - Nonprofit Organization

National Black Nurses Association, Inc - Professional Association

Office on Women's Health (DHHS) - Federal Government Agency [U.S.]

Preeclampsia Foundation - Nonprofit Organization

Preventive Cardiovascular Nurses Association - Medical Specialty Society

Society for Vascular Medicine - Medical Specialty Society

Society for Women's Health Research - Nonprofit Research Organization

The Mended Hearts Inc. - Nonprofit Organization

The North American Menopause Society - Nonprofit Organization

Women in Thoracic Surgery - Medical Specialty Society

WomenHeart: The National Coalition for Women with Heart Disease - Nonprofit Organization

Guideline Status

This is the current release of the guideline.

This guideline updates a previous version: Mosca L, Banka CL, Benjamin EJ, Berra K, Bushnell C, Dolor RJ, Ganiats TG, Gomes AS, Gornik HL, Gracia C, Gulati M, Haan CK, Judelson DR, Keenan N, Kelepouris E, Michos ED, Newby LK, Oparil S, Ouyang P, Oz MC, Petitti D, Pinn VW, Redberg RF, Scott R, Sherif K, Smith SC Jr, Sopko G, Steinhorn RH, Stone NJ, Taubert KA, Todd BA, Urbina E, Wenger NK, Expert Panel/Writing Group, American Heart Association, American Academy of Family Physicians, American College of Obstetricians and Gynecologists, American College of Cardiology Foundation, Society of Thoracic Surgeons, American Medical Women's Association, Centers for Disease Control and Prevention, Office of Research on Women's Health, Association of Black Cardiologists, American College of Physicians, World Heart Federation, National Heart, Lung, and Blood Institute, American College of Nurse Practitioners. Evidence-based guidelines for cardiovascular disease prevention in women: 2007 update. Circulation 2007 Mar 20;115(11):1481-501. [23 references]

Guideline Availability

Electronic copies: Available from the American Heart Association Web site .

Print copies: Available from the American Heart Association, Public Information, 7272 Greenville Ave, Dallas, TX 75231-4596; Phone: 800-242-8721.

Availability of Companion Documents

None available

Patient Resources

None available

NGC Status

This NGC summary was completed by ECRI on May 6, 2004. The information was verified by the guideline developer on June 4, 2004. This NGC summary was updated by ECRI Institute on June 4, 2007. This summary was updated by ECRI Institute on January 4, 2010 following the U.S. Food and Drug Administration advisory on Plavix (Clopidogrel). This summary was updated by ECRI Institute on May 17, 2010 following the U.S. Food and Drug Administration advisory on Plavix (clopidogrel). This summary was updated by ECRI Institute on June 17, 2011. This summary was updated by ECRI Institute on April 13, 2012 following the U.S. Food and Drug Administration advisories on Statin Drugs and Statins and HIV or Hepatitis C drugs. This summary was updated by ECRI Institute on January 23, 2013 following the U.S. Food and Drug Administration advisory on Pradaxa (dabigatran etexilate mesylate).

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